Remarks/Arguments

In the Final Office Action dated December 15, 2010, it is noted that claims 1-4 and 6-13 are pending in this application; that the Information Disclosure Statement submitted on October 4, 2010 has been found to be in compliance with the patent regulations and has been considered by the Examiner; that claims 1-4 and 6-13 stand rejected under 35 U.S.C. §103.

By this response, claim 1 has been amended to conform the recitation of a limitation to all other recitations of that limitation. The amendment is supported at least by the original claim set as well as by the original specification. No new matter has been added to the claims.

Cited Art

The following references have been cited and applied in the present Office Action: U.S. Patent 7,079,508 to Ayyagari et al. (hereinafter, "*Ayyagari*"); and U.S. Patent Application Publication No. 2004/0032868 to Oda et al. (hereinafter, "*Oda*").

Rejection of Claims 1-4 and 6-13 under 35 U.S.C. §103

Claims 1-4 and 6-13 stand rejected under 35 U.S.C. §103 as unpatentable over Ayyagari in view of Oda. These rejections are respectfully traversed.

Claim 1 recites:

> *A method for controlling Quality of Service (QoS) levels/service levels within a wired network associated with wireless Local Area Network (LAN), the wired network having different paths for carrying information frames received from at least one mobile terminal user, comprising the steps of:*
>
> *receiving in the wired network at least one information frame from the at least one mobile terminal user in said wireless LAN;*
>
> *determining a QoS level/service level for the received at least one information frame;*
>
> *associating with the received at least one information frame an identifier that identifies at least one path through the wired network having a transmission capability sufficient to provide the determined QoS level/service level, wherein the identifier includes a Virtual Local Area Network (VLAN) number; and*
>
> *routing the at least one information frame in the wired network along at least the at least one path identified by the associated identifier."*

Acknowledging that Ayyagari does not teach or suggest the claimed limitations relating to the "associating" and "routing" steps as defined above, the USPTO relied on Oda for allegedly teaching these features (see Office Action at page 5). Applicants assume, solely for the sake of argument herein, that the interpretation of Oda's teachings described on page 5 and elsewhere in the Office Action is correct. In making this arguendo assumption, Applicants neither agree with nor acquiesce to its correctness.

As explained below, even if the teachings of Oda described in the present Office Action are assumed to be correct, there is no teaching or suggestion in Oda to cure the deficiencies in the combined references as they relate to claims 1 and 8.

Ayyagari appears to teach the use of a "priority level indicating tag" with a transmission data packet frame *(Ayyagari: Figure 4 and related description at col. 10, lines 31-56)*. This tag is assigned by the starting node for the packet transmission (*Ayyagari: col. 12, lines 9-17*). The priority level tag is said to indicate the QoS level for the transmission packet, and according to Ayyagari, the access point acts as the gatekeeper for allowing access at the requested QoS level *(Ayyagari: col. 11, lines 9-15)*.

Ayyagari employs only a priority tag in each transmission packet. No other identification related to QoS or the like is associated with the transmission packets from the mobile terminal as they are received by the wired network elements in subnet 240. Once the priority tag is assigned to the transmission packet, that transmission packet is allowed to be transmitted by the mobile terminal for ultimate delivery to the receiving terminal via wired subnet 240 without further modification by any of the elements in the wired subnet *(Ayyagari: Figures 5 and 6 and related description)*.

In Ayyagari, there are three different types of packets in connection with a mobile terminal accessing and transmitting data in a subnet. The first is an "**access request packet**" to the access point from the mobile terminal seeking access to the network *(Ayyagari: col. 9, lines 28-32)*. The second is a "**QoS request packet**" sent to the subnet by the access point because the access point or starting node hosts various QoS handling mechanisms according to Ayyagari *("message requesting QoS"* in *col. 9, lines 32-35; col. 11, lines 20-41; and step 500 of Figure 5)*. The third is the **"actual transmission packet"**, including its priority tag, which is transmitted by the mobile terminal *(Ayyagari: Figures 4 and 6)*. **It should be noted that the above terminologies for the packet names are developed by Applicants in order to differentiate as**

simply as possible among the three different types of packets taught by Ayyagari, without distorting the teachings of Ayyagari in any way.

Since these different packet types are mentioned in the portion of Ayyagari cited by the USPTO (e.g., col. 9, lines 17-35) against the limitation relating to the *"at least one information packet"* used throughout the claims, it is felt necessary to analyze the Ayyagari reference with respect to each packet type at the outset.

1) Access request packet

In rejecting claim 1, the USPTO considers the access request packet (sent by the mobile terminal to the access point in order to gain access to the network) as corresponding to the claimed limitation of *"at least one information frame"* (p.4, Office Action). It will be shown below that, contrary to the Office Action, Ayyagari does not teach or suggest the features of "*receiving in the wired network at least one information frame from the at least one mobile terminal user in said wireless LAN*" and "*determining a QoS level/service level for the received at least one information frame*."

As taught by Ayyagari, the access request packet is sent by the mobile terminal to the access point (*Ayyagari: col. 9, lines 28-32).* Reception of the access request packet causes the access point to generate a different packet, namely, the QoS request packet, through its own QoS handling mechanisms such as RSVP and Packet Scheduler (*Ayyagari: step 500 in Figure 5; col. 9, lines 32-35; and col. 11, lines 20-41).* Thus, contrary to the claimed limitation, the access request packet is not received in the wired network because it is only received by the access point, a portion of the wireless network. Since this packet is not received in the wired network, it also does not correspond to the feature in the determining of the QoS level.

Even if one were to consider the access point as part of the wired network, the correspondence would again fail because the access request packet is not propagated further in the network. The access request packet is received by the access point with no further forwarding or transmission into the subnet. Ayyagari therefore operates on the principle that the access request packet does not propagate beyond the access point and it is not modified in any way by the access point.

Any attempt to use this packet as the claimed *"at least one information frame"* and then, by adding teachings from other references such as Oda, extend its use and processing in the wired

network further ignores and frustrates the teachings of Ayyagari. Under M.P.E.P. §2143.01, especially subsections V and VI thereof, any such combination of references would be improper under 35 U.S.C. §103 because the combination would either render the prior art unsatisfactory for its intended purpose or would change the principle of operation of the reference. Since Ayyagari does not teach making associations to the access request packet, such a packet cannot be the subject of the "associating" limitation in the independent claims. Furthermore, since Ayyagari does not teach that this packet is routed beyond the access point, such a packet also cannot be the subject of the "routing" limitation in the independent claims.

Thus, it is submitted that the combination of Oda and Ayyagari based on the correspondence of the access request packet with the claimed *"at least one information frame"* fails to teach or suggest all the limitations of the independent claims and the claims dependent thereon. Moreover, the combination of Oda and Ayyagari based on this-would be improper under M.P.E.P. §2143.01. Therefore, the combination of references would fail to make the claimed limitations obvious under 35 U.S.C. §103.

2) QoS Request packet

As noted above, reception of the access request packet causes the access point to generate a different packet, namely, the QoS request packet, through its own QoS handling mechanisms such as RSVP and Packet Scheduler (*Ayyagari: step 500 in Figure 5; col. 9, lines 32-35 and col. 11, lines 20-41).* However, the QoS request packet received by the wired subnet would not correspond to, or teach or suggest features relating to *"at least one information frame"* because the QoS request packet is <u>not</u> received from the mobile terminal, as defined in the claims. It is not even a packet received from the mobile terminal and then forwarded intact by the access point. Instead, the QoS request packet is originally generated by the access point alone.

No teachings from Oda can change the fact that Ayyagari clearly teaches that the QoS request packet is <u>not from the mobile terminal</u>. To use any other reference such as Oda to change the origin of this QoS request packet would be contrary to the teachings of Ayyagari and would change the operating principles of Ayyagari so that Ayyagari would not operate in its intended manner.

Even if one were to assume, just for argument's sake, that the QoS request packet corresponds to the claimed feature of *"the at least one information frame,"* there is still no

showing that this QoS request packet is routed on any path in the subnet that has *"a transmission capability sufficient to provide the determined QoS level/service level"* as defined in the claims. Instead, this QoS request packet is simply probing the nodes to see whether they can individually honor the request for a certain QoS level (*Ayyagari: Figure 5, e.g., steps 515-550*). Moreover, there is no showing that the QoS request packet has a path identified by the associated identifier.

In view of these remarks, it is submitted that the combination of Oda and Ayyagari based on the correspondence of the QoS request packet with the claimed *"at least one information frame"* fail to teach, show or suggest all the limitations of the independent claims and the claims dependent thereon. Moreover, the combination of Oda and Ayyagari based on this correspondence would be improper under M.P.E.P. §2143.01. Therefore, the combination of references would fail to make the claimed limitations obvious under 35 U.S.C. §103.

3) Transmission packet

As described above, the transmission packet, including its priority tag, is transmitted by the mobile terminal after the subnet nodes confirm the availability of sufficient resources to meet the QoS level requested by the access point in the QoS request packet (*Ayyagari in Figures 4, 5 and 6).* Since the priority tagged transmission packet is received at the wired subnet, it becomes important to view the operations of the subnet in accordance with Ayyagari's teachings. Recall also that the USPTO has acknowledged that Ayyagari does not teach or suggest the claimed features related to the "associating" and "routing" steps.

According to Ayyagari, the priority tagged transmission packet received by the subnet is routed on the sole basis of priority tag within the packet. That priority tag symbolizes the resource allocation decisions made by the subnet nodes during the QoS negotiation with the access point. No other information is taught or needed by Ayyagari to route the transmission packet through the subnet. When the tagged packet is received in the subnet of Ayyagari, it appears to be routed "as is", with no association of any identifier or the like with the transmission packet.

The priority level tag is assigned by the QoS handling mechanism at the starting node or the access point for a wireless link into a network (*e.g., Ayyagari: col. 12, lines 9-14*). In other words, Ayyagari sets its one and only QoS related identifier in the wireless network, not in the wired network. If the teachings of Oda were combined with Ayyagari to suggest that the setting

of the priority tag in the packet could occur in other than the wireless network, that combination would be considered improper because it would clearly be contrary to the teachings of Ayyagari, and Ayyagari would not operate in its intended purpose or according to its own established operating principles.

Since Ayyagari has already gone through the whole procedure to determine and reserve available resources to meet the QoS level request and the transmission packet includes the priority level tag, Ayyagari does not require any other information or identifier for the subnet to route the packet to the receiving node. So if the correspondence is made between Ayyagari's transmission packet and the claimed *"at least one information frame"* and if the teachings of Oda are combined with Ayyagari, it is clear that the combination will not operate as intended by Ayyagari.

Assuming that Oda's network operation is overlaid on the subnet operation of Ayyagari, the priority tag of the transmission packet will be examined to determine a QoS level in the USPTO's suggested combination. Then, a VLAN identifier will be inserted into the packet for routing purposes, according to the USPTO suggested combination with Oda. However, such an operation is clearly contrary to the teachings of Ayyagari because Ayyagari teaches that the routing is already established by the approved priority tag inserted in the transmission packet at its point of origin in the wireless system. Thus, the use of the assumed teachings of Oda as suggested by the USPTO will unmistakably make Ayyagari's network operate in a manner that is unsatisfactory for its intended purpose and will make Ayyagari's network operate drastically different from its principles of operation.

Thus, it is submitted that the combination of Oda and Ayyagari based on the correspondence of the actual transmission packet with the claimed *"at least one information frame"* fail to teach or suggest all the limitations of the independent claims and the claims dependent thereon. Moreover, the combination of Oda and Ayyagari based on this correspondence would be improper under M.P.E.P. §2143.01. Therefore, the combination of references would fail to make the claimed limitations obvious under 35 U.S.C. §103.

For all the reasons above, it is submitted that claims 1-4 and 6-13 are allowable under 35 U.S.C. §103. Withdrawal of this rejection is respectfully requested.

Conclusion

In view of the foregoing, it is submitted that all the claims pending in this patent application are in condition for allowance. Entry of this amendment, reconsideration of this application, and allowance of all the claims are respectfully solicited.

Respectfully submitted,

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